

CLAIMS

What is claimed is:

1. An ink cartridge, comprising:
 - a cartridge body, partitioned into foam chambers and ink chambers, and having a first welding part and a second welding part;
 - a lid having a third welding part, engageable and weldable with the first welding part of the cartridge body, and a fourth welding part on the bottom thereof in which the second welding part is insertable;
 - at least one ink head provided on the bottom of the cartridge body to eject ink; and
 - at least one ink filter provided on an upper side of each ink head to prevent foreign materials or bubbles from flowing in.
2. The ink cartridge as claimed in claim 1, wherein the first welding part has a first section horizontally protruded in cross-section and a second section vertically protruded to the first section, and the third welding part has a third section vertically protruded, a fourth section horizontally protruded, and a fifth section in a diagonal cross-sectional shape connecting the third section and the fourth section.
3. The ink cartridge as claimed in claim 2, wherein the first section has a concave groove on the upper end portion thereof.

4. The ink cartridge as claimed in claim 2, wherein an angle between a boundary line between the second section and the fifth section and a vertical line of the fifth section ranges from substantially 20 to 70 degrees.
5. The ink cartridge as claimed in claim 1, wherein the cartridge body holds one or more color inks, and further includes one or more partitions partitioning different color inks.
6. The ink cartridge as claimed in claim 1, wherein the upper end portions of the second welding part are a convex shape.
7. The ink cartridge as claimed in claim 1, wherein the upper end portions of the second welding part are a concave shape.
8. The ink cartridge as claimed in claim 1, wherein the second welding part has a vertical rectangular shape in cross-section, and the fourth welding part has a concave groove in which the second welding part is insertable.
9. The ink cartridge as claimed in claim 8, wherein the upper sides of the grooves are a symmetrical triangle in cross-section.

10. The ink cartridge as claimed in claim 9, wherein an angle between extension lines from two symmetric faces of the symmetric triangle ranges from substantially 30 to 150 degrees.

11. The ink cartridge as claimed in claim 8, wherein the second welding part has a thickness less than a width of each of the grooves in the fourth welding part, so that a predetermined space occurs on both sides of each second welding part when the second welding part is inserted in the fourth welding parts.

12. The ink cartridge as claimed in claim 11, wherein the predetermined spaces are substantially equal to, or less than, 0.4 mm each.

13. The ink cartridge according to claim 1, wherein the lid and the cartridge body do not substantially slide against each other when vibration is applied by an ultrasonic welder.

14. The ink cartridge according to claim 1, wherein a plurality of ink injection holes, for injecting ink into the ink chambers, are each sealed by a ball.

15. An ink cartridge, comprising:
 - a cartridge body, partitioned into foam chambers and ink chambers, having a first welding part along the upper rim portion thereof and a second welding part having concave grooves on upper end portions of partitions;
 - a lid having a third welding part engageable and weldable with the first welding part of the cartridge body, and a fourth welding part on the bottom thereof in which the second welding part is insertable;
 - at least one ink head on the bottom of the cartridge body to eject ink; and
 - at least one ink filter provided on an upper side of each ink head to prevent foreign materials or bubbles from flowing in.
16. The ink cartridge as claimed in claim 15, wherein the grooves of the second welding part each have a rectangular shape in cross-section.
17. The ink cartridge as claimed in claim 15, wherein the fourth welding part has a triangular shape in cross section.
18. The ink cartridge as claimed in claim 15, wherein the fourth welding part has a cross section combining the rectangular and triangular shapes.

19. The ink cartridge as claimed in claim 15, wherein the cartridge body holds one or more color inks, and includes plural partitions partitioning different color inks.

20. The ink cartridge according to claim 15, wherein the lid and the cartridge body do not substantially slide against each other when vibration is applied by an ultrasonic welder.

21. The ink cartridge according to claim 15 wherein a plurality of ink injection holes, for injecting ink into the ink chambers, are each sealed by a ball.

22. An ink cartridge, comprising:
a cartridge body having a first welding part along the upper rim portion thereof and a second welding part having concave grooves on upper end portions of partitions; and
a lid having a third welding part engageable and weldable with the first welding part of the cartridge body, and a fourth welding part on the bottom thereof in which the second welding part is insertable.

23. The ink cartridge according to claim 22, wherein the grooves of the second welding part each have a rectangular shape in cross-section.

24. The ink cartridge according to claim 22, wherein the fourth welding part has a triangular shape in cross section.

25. The ink cartridge as claimed in claim 22, wherein the fourth welding part has a cross-section combining the rectangular and triangular shapes.

26. An ink cartridge, comprising:
a cartridge body having a first welding part; and
a lid having a second welding part, engageable and weldable with the first welding part,
wherein at least one of the first and second welding parts has a concave groove in which
the other of the first and the second welding parts is insertable and a predetermined space
occurs on both sides of the engaged first and second welding parts.

27. The ink cartridge according to claim 26, wherein the predetermined space is
substantially equal to, or less than, 0.4 mm.